



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,639	02/27/2004	Per-Ola Kristensson	ARC920040008US1	7219

28342 7590 06/08/2007  
SAMUEL A. KASSATLY LAW OFFICE  
20690 VIEW OAKS WAY  
SAN JOSE, CA 95120

EXAMINER
----------

LEE, JOHN W

ART UNIT	PAPER NUMBER
----------	--------------

2624

MAIL DATE	DELIVERY MODE
-----------	---------------

06/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/788,639	KRISTENSSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John Wahnkyo Lee	2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20040621 and 20040622</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. An initialed and dated copy of Applicant's IDS forms 1449, Paper No. 20040621 and 20040622, are attached to the instant Office action.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4, 6-7, 15, 17, 20-22, 24, 26-27, 37-38, 40, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Lui et al. (US 6,778,815).

Regarding claim 1, Lui discloses a system and method for accepting disparate types of computer user input (claims 1 and 9) comprising a text input panel accepting soft keyboard (abstract; Fig. 4-411, Fig. 8, Fig. 11, Fig. 12, Fig. 15, Fig. 19, Fig. 22, Fig. 23, and Fig. 24) and a text recognizer/synchronizer recognizing and preserving an order in which the user inputs text via the speech recognizer, the handwriting recognition, and the soft keyboard (abstract; Fig. 3-310, claim 2).

Art Unit: 2624

Regarding claims 2, 4, and 15, Lui discloses a character recognizer (Fig. 3-304) that recognizes various strokes or gestures as abbreviations for certain characters or special symbols (col. 7, lines 22-25).

Regarding claim 6, Lui discloses a symbol pad, a character recognition pad, and a gesture pad that a user's inking or gestures can be interpreted as a gesture opposed to a symbol or other character (col. 7, lines 44-48).

Regarding claim 7, Lui discloses that a Tablet PC user interface accepts a spectrum of input ranging from entering characters via a simple virtual keyboard through a single stroke or single character recognition (col. 5, lines 27-40).

Regarding claim 17, Lui discloses a text recognizer/synchronizer recognizing and preserving an order in which the user inputs text via the speech recognizer, the handwriting recognition, and the soft keyboard (abstract; Fig. 3-310, claim 2).

Regarding claim 20, Lui discloses that the user interface includes a keybar or keypad having at least one key selected from the group consisting of left arrow, right arrow, backspace, delete, space, end, home, enter, tab, and escape.

Regarding claim 21, claim 21 is analogous and corresponds to claim 1. See rejection claim 1 for further explanation.

Regarding claims 22, 24, and 26 is analogous and corresponds to claims 2 and 4. See rejection of claims 2, 4, and 15 for further explanation.

Regarding claim 27, Lui discloses a keyboard tab (Fig. 4-402) that, when selected, activates a soft keyboard (Fig. 4-411) for accepting soft keyboard presses including alphabets (claim 16).

Art Unit: 2624

Regarding claim 37, Lui discloses a system and method for accepting disparate types of computer user input (claims 1 and 9) comprising a text input panel accepting soft keyboard (abstract; Fig. 4-411, Fig. 8, Fig. 11, Fig. 12, Fig. 15, Fig. 19, Fig. 22, Fig. 23, and Fig. 24) and a handwriting recognizer for recognizing handwritten text input by a user via the handwriting recognition area (claim 1), and a text recognizer/synchronizer recognizing and preserving an order in which the user inputs text via the speech recognizer, the handwriting recognition, and the soft keyboard (abstract; Fig. 3-310, claim 2).

Regarding claim claims 38, 40, and 42, Lui discloses a character recognizer (Fig. 3-304) that recognizes various strokes or gestures as abbreviations for certain characters or special symbols (col. 7, lines 22-25).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 8-10, 23, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lui et al. (US 6,778,815) in view of Zhai et al. ("Performance Optimization of Virtual Keyboards").

Regarding claim 3, Lui discloses all the claim limitations of the previous claim except the claim limitation of claim 3. However, Zhai teaches Fitts-Digraph Model of Virtual Keyboard using distance of one key to another (pages 93-94)

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Zhai's method in Lui's invention to enhance the usability and acceptability of virtual keyboards as suggested by Zhai (page 123).

Regarding claim 8, Zhai further teaches an alphabetical tuning depending on the place in the alphabet for the character and on its position of the keyboard (pages 110-113).

Regarding claim 9, Zhai further teaches an equation for alphabetical tuning that has an empirically adjusted weighting coefficient (page 112).

Regarding claim 10, Zhai further teaches a Fitts-Digraph Model that has a given distance-Dij, which is between one key i to another j (page 93).

Regarding claim 23, claim 23 is analogous and corresponds to claim 3. Refer rejection of claim 3 for further explanation.

Regarding claim 39, Lui discloses all the claim limitations of the previous claim except the claim limitation of claim 39. However, Zhai teaches Fitts-Digraph Model of Virtual Keyboard using distance of one key to another (pages 93-94)

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Zhai's method in Lui's invention to enhance the usability and acceptability of virtual keyboards as suggested by Zhai (page 123).

6. Claims 5, 16, 19, 25, 28, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lui et al. (US 6,778,815) in view of Carman, II (US 5,454,046).

Regarding claim 5, Lui discloses all the claim limitations of the previous claim except the claim limitation of claim 5. However, Carman discloses that the handwriting recognition system offers the user an interface that allows him/her to train the recognition database on individual characters or character sequences in the context of complete words (col. 3, lines 33-37).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Carman's invention in Lui's invention to provide handwritten data readable and reproducible by the computer as suggested by Carman (col. 2, lines 20-23).

Regarding claim 16, Carman further discloses that an abbreviated Chinese handwritten entry can be trained for recognition (abstract).

Regarding claim 19, Carman further discloses that the CPU searches memory data storage for a pattern match with the text/pattern pairs stored as class node, word node, and pattern node, which is a feature vector (Fig. 3B-90, col. 10, lines 45-49).

Regarding claim 25, claim 25 is analogous and corresponds to claim 5. Refer rejection of claim 5 for further explanation.

Regarding claim 28, claim 28 is analogous and corresponds to claim 16. Refer rejection of claim 16 for further explanation.

Regarding claim 41, Lui discloses all the claim limitations of the previous claim except the claim limitation of claim 41. However, Carman discloses that the handwriting

recognition system offers the user an interface that allows him/her to train the recognition database on individual characters or character sequences in the context of complete words (col. 3, lines 33-37).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Carman's invention in Lui's invention to provide handwritten data readable and reproducible by the computer as suggested by Carman (col. 2, lines 20-23).

7. Claims 11-14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lui et al. (US 6,778,815) in view of Zhai et al. ("Shorthand Writing Stylus Keyboard").

Regarding claim 11, Lui discloses all the claim limitations of the previous claim except the claim limitation of claim 11. However, Zhai teaches a SHARK recognition system based on the classic elastic matching algorithm that computes the minimum distance between two sets of points by dynamic programming (pages 99-100). One set of points is from the shape that a user produces, and the other is from a prototype that is the ideal shape defined by the letter key positions of a word (page 100).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Zhai's method in Lui's invention to provide a feasible pattern recognition method as suggested by Zhai (page 99).



Regarding claim 12, Zhai further teaches that a preprocessing, filtering and normalization in scale, is performed before the elastic matching between the unknown shape and the prototypes (page 100).

Regarding claims 13 and 14, Zhai further teaches that the ambiguity of the SHARK recognition can be resolved by two approaches (page 100). First one is using the transient pie menus (Fig. 4), and the second one is checking the start position or the geometric center of the sample relative to the letters defining the multiple ambiguous prototypes to determine which word the user intends to write (page 100).

Regarding claim 18, Zhai teaches a SHARK recognition system based on the classic elastic matching algorithm that computes the minimum distance between two sets of points by dynamic programming (pages 99-100). One set of points is from the shape that a user produces, and the other is from a prototype that is the ideal shape defined by the letter key positions of a word (page 100). A preprocessing, filtering and normalization in scale, is performed before the elastic matching between the unknown shape and the prototypes (page 100).

8. Claims 29-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lui et al. (US 6,778,815) in view of Milewski et al. ("Medical Word Recognition Using a Computational Semantic Lexicon").

Regarding claim 29, Lui discloses all the claim limitations of the previous claim except the claim limitation of claim 29. However, Milewski teaches a recognition method for pattern recognition involving lexicon (abstract).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Milewski's method in Lui's invention to provide a hybrid semantic network as suggested by Milewski (page 402).

Regarding claims 30 and 36, Milewski further teaches that the recognition method deals with medical forms that contain lots of medical words (pages 401-402).

Regarding claim 31, Milewski further teaches that a lexicon database will contain a list of English and medical words which are weighted according to the popularity of that word over time (page 402).

Regarding claim 32, Milewski further teaches that a priori data will be used for further recognition in the larger handwriting regions (page 402).

Regarding claim 33, Milewski further teaches a recognition method for pattern recognition of the medical field (abstract).

Regarding claim 34, Milewski further teaches a data compiler, a graphic user interface (GUI), and a Java Constrained Object Inference Net (page 402).

Regarding claim 35, Milewski further teaches that the objective and comments region contain lots of varying abbreviations, symbols, and numbers in conjunction with regular handwriting, and a general path can be used to narrow in on specific problems (page 402).

### ***Conclusion***

9. No claims are allowed.

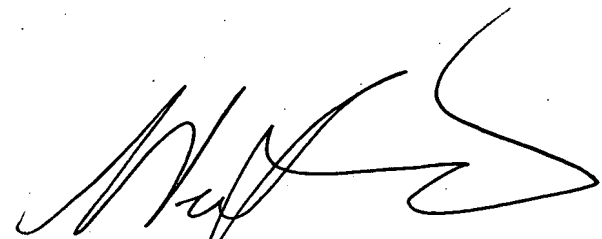
Art Unit: 2624

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Wahnkyo Lee whose telephone number is (571) 272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John W. Lee  
(AU 2624)



JINGGE WU  
SUPERVISORY PATENT EXAMINER